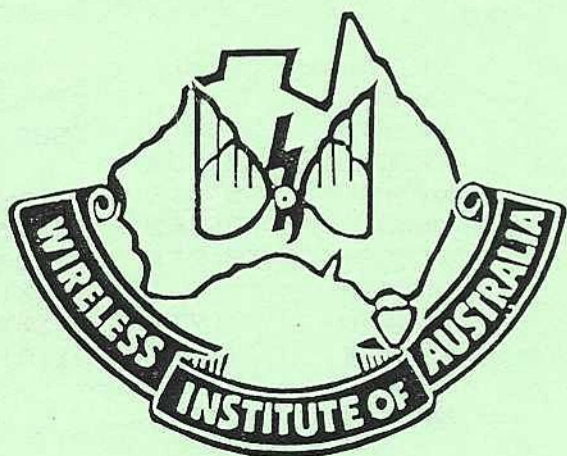
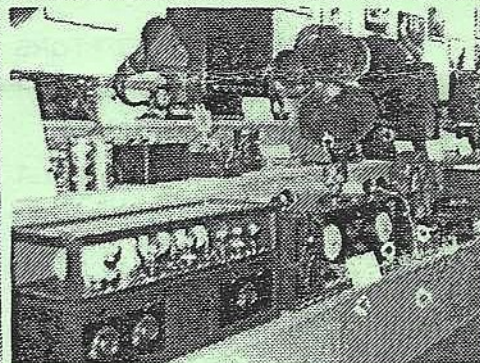
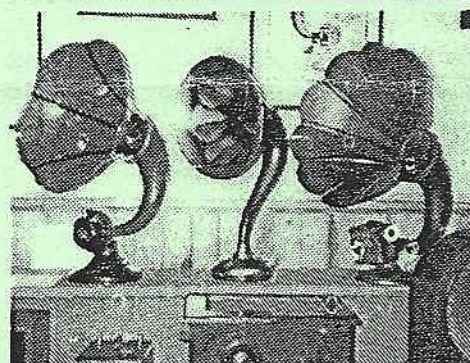
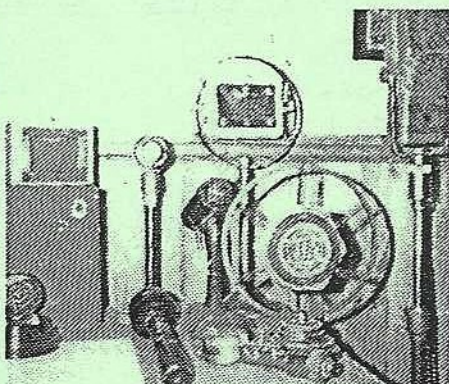


10/9, Oct 1991 ①



B.A.R.G. NEWS



© Monthly Newsletter of the
Ballarat Amateur Radio Group

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AWARDS MANAGER	Maurie Batt	VK3XEX	422245	
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	Geoff Smith	VK3ADB	332112	
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	Dick Forrester	VK3VU	357663	391001
	Merv Hooley	VK3KAW		311317
	David McConnell	VK3YNB		
NEWSLETTER EDITORS	Bob Terrill	VK3BNC	395317	391001
	Harry Hekkema	VK3KGL	357563	391001

PEPEATERS: VK3RBA - 146.750 Voice. Mt. Buninyong. (Ch.3)
VK3RBS - 146.900 Voice. Smeaton Hill. (Ch.6)
VK3RPC - 147.600 Packet. Mt. Warrenheip
VK3RBU - 438.475 Voice. Smeaton Hill

CLUB NET: On 3.5610 Mhz. SSB +/- QRM.
Every Thursday at 8 PM.

MEETINGS: Held every last Friday of
month at 7.30 PM. in the
Ballarat Community Education Centre.
Hopetoun St.
Ballarat.

CORRESPONDENCE TO: THE SECRETARY,
BARG Inc
P.O. BOX 216E
BALLARAT EAST 3350.

PRINTERS

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32 6694

PRESIDENTS REPORT

Well its been a busy month for most of the BARG members with the Hamvention this weekend and Amateur Exams to be set up.

Due to the great response from people wanting to participate in the next exam it has been decided to hold them on the evening of the Tuesday 29th of October.

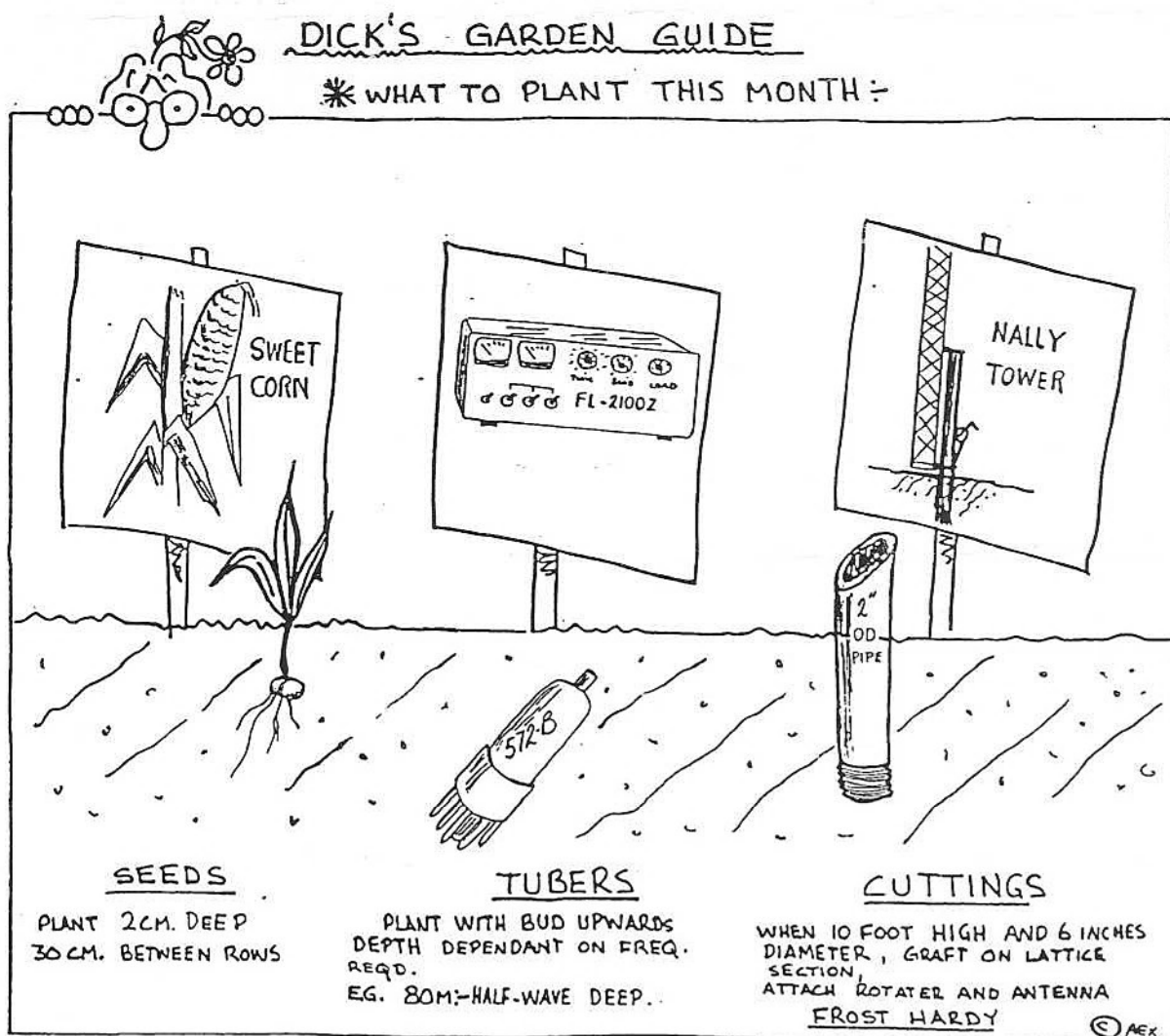
A meeting was held a couple of weeks ago to finalise the program for the Hamvention, helpers are needed on the day to help with various activities and services. If you can help in any way Kevin VK3WN will be glad to hear from you at the next meeting or by phone if you cannot make it this Friday. By all accounts it looks like this hamvention will be well patronized by commercial and personal exhibits and sales.

The raffle tricketts have been going like hot cakes and it would be appreciated if they could be returned on Friday night or at the Hamvention.

Due to a long working week that dragged into a fortnight I haven't had time to collate the current scramble scores but they will be in the next newsletter.

73's and see you at the Hamvention..

TOM VK3DMK....



NEXT MONTH: How to AVOID SOOTY-MOLD ON ORNAMENTALS - CHEERIO!

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MINUTES OF GENERAL MEETING HELD 27th SEPTEMBER 1991.

MEETING OPENED by President Tom VK3 DMK at 7.40pm with 49 members present.

APOLOGIES VK3 LU, AXH, KAW, DOK, PAP, BNC, DS, NIZ, SE, IBM.

MINUTES of previous meeting as circulated were confirmed. CAZ/DCS.

CORRESPONDENCE IN WIA re registration of examiners.
Redcliffe Radio Club VK4 re cost of examinations.

TREASURERS REPORT General a/c. \$1093.51. VS&L a/c. \$6188.21.
Accounts totalling \$86.22 passed for payment. KGL/JAT.

CLUB NET John CFH reported good participation.

TECHNICAL. All repeaters operating well. RBA Ausatt linkup on 14.10.91.

HAMVENTION Publicity material has been circulated.

WICEN UHF & VHF antennas have been erected on Police Station.

GENERAL BUSINESS. Orders for 1991/92 Call Books were taken.

JOTA station will be set up at Berringa for Ballarat
Venturer Scouts. Contact Jeff PAP if you can assist.

Moved DCS seconded CAZ that BARG members will pay the
WIA fee for examinations, non members will pay WIA fee plus
booking fee of \$5.00. carried.

WIA fee is Theory exams \$10.00. Regulations \$5.00.
Morse sending \$5.00. Morse receiving \$10.00.

Moved FGC seconded JAT that Club register 5 examiners at
a cost of \$10.00 each which included examiners manuals. carried.

MEETING CLOSED at 8.25pm.

73s Jim CFB.

NEXT BARG MEETING 25th October. 7.30pm at Ballarat Education Centre.

Ham phone contacts with the Space Shuttle have been reported recently and contact via satellites is usual practice. My interest, naturally, is in using visible data modes, so recent contacts, or connects in packet language, with the Soviet space station 'MIR' have created new interest. Data modes have been in use to and from satellites for some time now, but since January this year, Ham Cosmonauts have been active on Packet Radio. The first crew used the call U2MIR and since June the new crew use U5MIR.

Packet operation being to a great extent automatic, working by software loaded into a computer, means that a station can be left unattended and all connects, messages left and replies sent from memory, make MIR an orbiting simplex mailbox or digipeater even while the resident Ham is busy or asleep. So here is what happens during a 'silent' Ham contact.

Here are a few seconds of the start of a contact where I have connected with U5MIR-1. The -1 denoting U5MIR's PMS port. (personal message system) In Packet the callsign of the sending station appears first and that of the receiver, last. In between is a station relaying or digipeating.

```

09:50 VK3ABK>U5MIR-1>SABM
09:50 U5MIR-1>VK3ABK>UA
09:50 U5MIR-1>VK3ABK>I00:Logged on to U5MIR's Personal Message System
09:50 VK3ABK>U5MIR-1>RR1
09:50 U5MIR-1>VK3ABK>RR0
09:50 VK3ABK>U5MIR-1>RR1
09:50 U5MIR-1>VK3ABK>RR0
09:50 VK3ABK>U5MIR-1>RR1
09:50 VK3ABK>U5MIR-1>I01:1
09:50 U5MIR-1>VK3ABK>RR0
09:50 VK3ABK>U5MIR-1>RR1
09:51 VK3ABK>U5MIR-1>I01:1
09:51 U5MIR-1>VK3ABK>RR1
09:51 VK3ABK>U5MIR-1>RR1
09:51 U5MIR-1>VK3ABK>I11:
09:51 U5MIR-1>VK3ABK>I21:CMD(B/H/J/K/KM/L/M/R/S/SR/V/?)>
09:51 U5MIR-1>VK3ABK>I31:
09:51 U5MIR-1>VK3ABK>RR1
09:51 VK3ABK>U5MIR-1>RR4
09:51 U5MIR-1>VK3ABK>RR1
09:51 VK3ABK>U5MIR-1>RR4
09:51 U5MIR-1>VK3ABK>RR1
09:51 VK3ABK>U5MIR-1>RR4
09:51 VK3ABK>U5MIR-1>I14:h
09:51 U5MIR-1>VK3ABK>I42:Msg # Stat Date Time To From - BBS Subject
09:51 U5MIR-1>VK3ABK>I52: 2237 P 91/07/15 02:11 U5MIR IW1BMJ **SPA
EWS**
09:51 U5MIR-1>VK3ABK>I62: 2236 PR 91/07/15 01:21 U5MIR ZL3RS REPORT
09:51 VK3ABK>U5MIR-1>RR7
09:51 U5MIR-1>VK3ABK>I72: 2235 PR 91/07/15 01:17 U5MIR VK2WDH news

```

HERE ARE SEVERAL RETRIES

RR (RECEIVE READY) FROM BOTH STATIONS

MY FIRST I (LIST) WAS SENT AGAIN AS

MIR DID NOT ACK.

RR'S FOR SUCCESSIVE FRAMES

MY h (HELP) CMD BEFORE LIST REQ.

As can be seen, a lot happens in a few seconds and some delay or retries are caused by QRM which only U5MIR can hear. A packet modem and TNC (Terminal Node Controller) will wait until the frequency is clear before transmitting on terrestrial links but via MIR the link stations cannot hear each other. (like some on voice repeaters!!)

At about 09:51:10 U5MIR-1 has sent his PMS CMD (Commands available) ..see first printout.. and then I requested h (HELP). Due to the way computers operate, everything they do is orderly and as logical as we program them to be. Therefore, U5MIR-1 has ignored my (l) request until he has sent his CMD and then ignored my (h) request until he has dealt with my (l) request. This is perfectly normal and as long as the path holds, each end of the link will retry if an (ACK) is not received, before going on to the next CMD or request.

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During a pass of 4-5 minutes, up to 10 stations can be heard on the one frequency from 4 states plus ZL and my transceiver TX and RX busy lights are flashing continuously and the S meter goes crazy, as U5MIR can be S9+ and then still printing at S2, low in the pass.

This printout shows the next pass about 95 min later and VK2LF has connected and sent CMD(j) for a list of calls logged previously and VK3ABK is shown from the earlier pass along with an assortment from recent subsatellite areas. This would be an orbit over USA, northern Europe, across the Indian Ocean and passing over southern Australia.

Calling CQ via U5mir can result in connections with other VK's or ZL but as the motion of the space station is often unfavourable to one or both and the time is short, contact is brief.

This is shown by my CTEXT (HELLO FROM GEELONG) as a station has called and my reply is being repeated (no ACK) while I have been connected to U5MIR on one port and VK3TJR has called on my QS0 port. Contacts with several stations at once can be supported by the DIGICOM program used and with automatic logging, the advantages in a contest are ...UNLIKELY.

```
11:30 U5MIR-1>VK2LF>I52:CMD(B/H/J/K/KM/L/M/R/S/SR/V/?)>
11:30 VK3ABK/U5MIR>CQ>SABM
11:30 VK3ABK/U5MIR*>CQ>SABM
11:30 U5MIR-1>VK2LF>I63:VK2LF
11:30 U5MIR-1>VK2LF>I73:VK3ABK
11:30 U5MIR-1>VK2LF>I03:VK3BDG-2
11:30 U5MIR-1>VK2LF>I13:VK2WDH
11:30 U5MIR-1>VK2LF>I23:VK3JT
11:30 VK3ABK/U5MIR>CQ>SABM
11:30 U5MIR-1>VK2LF>I23:VK3JT
11:30 U5MIR-1>VK2LF>I33:G1IEJ
11:30 U5MIR-1>VK2LF>I43:E13FI
11:30 U5MIR-1>VK2LF>I53:WG2G
11:30 U5MIR-1>VK2LF>I63:WY7U
11:30 U5MIR-1>VK2LF>I73:W8MRR
11:30 U5MIR-1>VK2LF>I03:KC3HH
11:30 U5MIR-1>VK2LF>I13:KC4LIN
11:30 U5MIR-1>VK2LF>I23:K4QAL
11:31 U5MIR-1>VK2LF>I33:N8DEU
11:31 U5MIR-1>VK2LF>I43:K4HWQ
11:31 U5MIR-1>VK2LF>I53:WC5I
```

```
91/07/15 04:30
91/07/15 04:30
91/07/15 04:30
91/07/15 04:30
91/07/15 04:29
91/07/15 04:29
91/07/15 03:47
91/07/15 03:47
91/07/15 03:37
91/07/15 03:36
91/07/15 03:36
91/07/15 03:36
91/07/15 03:35
91/07/15 03:35
91/07/15 03:34
91/07/15 03:33
91/07/15 03:32
```

ALL PRINTED LIST:
ARE ONLY A SMALL
SAMPLE OF TOTAL
FROM ONE PASS OF
THE SPACE STATION
LIFO (LAST IN FIRST
OUT)
FROM U5MIR'S LOG.

The asterisk after the callsign shows that U5MIR-1 has received and relayed my call. SABM (Set Asynchronous Balanced Mode) in my first call or frame to MIR is a connect command and the UA (Un-numbered acknowledgment) confirms my connection and is followed by his CTEXT (Connect Text) which he has stored in memory. I then sent the command l (LIST) and got back a list of message titles, calls and times heard that day.

Note, I have used local times for my convenience while I understand the Cosmonauts use Moscow time. (Beats jet-lag I guess!!)

```
11:16 VK3TJR/U5MIR*>VK3ABK>SABM
11:16 VK3ABK/U5MIR>VK3TJR>UA
11:16 U5MIR-1>VK3ABK>RR0
11:16 VK3ABK>U5MIR-1>RR3
11:16 VK3ABK/U5MIR>VK3TJR>I00:HELLO FROM GEELONG
11:16 VK3ABK/U5MIR>VK3TJR>RR0
11:16 VK3ABK>U5MIR-1>I03:HELLO FROM GEELONG
11:16 U5MIR-1>VK3ABK>RR0
11:16 VK3ABK>U5MIR-1>RR3
11:16 VK3ABK/U5MIR>VK3TJR>RR0
11:16 VK3ABK>U5MIR-1>I03:HELLO FROM GEELONG
11:16 VK3ABK/U5MIR*>VK3TJR>RR0
11:16 U5MIR>CQ>UI:INDEPENDENCE DAY! CONGRATULATION FROM SPACE! 73! SERGEY,AN
```

HERE IS A CON FROM 3TJR

WHILE I AM CONNECTED TO MIR

U5MIR'S JULY 1 CTEXT

Here we see the repetitive nature of packet as my CTEXT is sent to VK3TJR who is responding to one of my CQ's before I sent con U5MIR-1 and connected with him. TJR could have had a contact with ABK while I was talking to MIR if the link had held (and MIR had parked over Vic.)

//mb. 1

//MHEARD L

//MHEARD L

HEARD DIRECT

QRV

VIA

HEARD DIRECT

QRV

VIA

09*55 VK3IBM-F 13*27 VK7XMT-3 VK3RMU 18*19 VK3WL 13*27 VK3DUH-F VK3RML
23*11 VK3KSE 13*51 VK3FRS-2 VK3RMU 23*14 VK3ZS 13*55 VK3IBM-2 VK3RML
23*19 VK3YZW 14*06 ZL3RS U5MIR-1 23*21 VK3IBM 17*20 VK3CFI U5MIR-
23*23 VK3BBS-2 18*57 VK8KAM U5MIR-1 23*24 VK3BLW 09:52 VK2XBD U5MIR
23*24 VK3RPS 13:10 VK3JAV-F U5MIR 23*26 VK3IBM-2 13:11 ZL1AFC U5MIR-
09*18 VK3DBO 13:11 VK2CZZ U5MIR-1 12*28 VK3CPO 14:45 ZL3SA U5MIR
13*09 VK3JT 14:47 ZL2AVK U5MIR-1 13*11 VK3CPO-1 14:48 ZL2ASO U5MIR
13*28 VK7XMT-C 16:22 VK3AEO U5MIR-1 13*28 VK3YZW-1 16:25 VK3TJR U5MIR
13*53 VK3YZW-2 16:26 VK7KKV-1 U5MIR 13*56 VK3RMU 16:26 VK7WP U5MIR
20*30 VK3BBS 16:26 VK2BBR U5MIR-1 18:01 U5MIR 17:59 VK6DM U5MIR
18:02 U5MIR-1 18:00 VK2LF U5MIR-1 23:07 VK3ABK 18:01 VK7KKV U5MIR
23:08 VK3ABK 18:02 VK4DFR-1 U5MIR-1
23.07.1991 23:09 LOCAL
CALLSIGNS VIA MIR FOR 02-03/07/91.

This list shows more than 3 orbits, (times with an asterisk are the previous day) but most states were seen. Weekends are best.

U5mir mainly uses 145.550-Mhz and the orbit is inclined 51.6 deg. to the equator, similar to the Space Shuttle.

Recent Keplerian Elements (orbital data) show some change and the solar activity being very high, could have been responsible as the orbit is close enough to Earth to be influenced by our expanding atmosphere.

Recent KEPS are shown below with comments from the Cosmonauts.

19:16 U5MIR-1>VK2YKT>I63:LOOKING IN MY WINDOW
19:16 U5MIR-1>VK2YKT>I73:I TRY CALCULATE OUR KEPS
19:16 U5MIR-1>VK2YKT>I03:THIS IS KEPS FOR MOSCOW TIME!
19:16 U5MIR-1>VK2YKT>I13:IF YOU USE MOSCOW TIME AND OFFSET=0 YOU CAN SEE QTH
19:16 U5MIR-1>VK2YKT>I23:
19:16 U5MIR-1>VK2YKT>I43:1991; the epoch year (YYYY)
19:16 U5MIR-1>VK2YKT>I53:166.832854; the epoch day (DDD.dddd)
19:16 U5MIR-1>VK2YKT>I63: 51.6272; orbital inclination (degrees)
19:16 U5MIR-1>VK2YKT>I73:338.75 ; right ascension (degrees)
19:16 U5MIR-1>VK2YKT>I03:0.0011 ; eccentricity
19:16 U5MIR-1>VK2YKT>I13:29.081 ; argument of perigee (degrees)
19:16 U5MIR-1>VK2YKT>I23:15.5817 ; mean motion (orbits/day)
19:16 U5MIR-1>VK2YKT>I33:0.00 ; mean anomaly (degrees)
19:16 U5MIR-1>VK2YKT>I43:6777.36 ; semi-major axis (km)
19:16 VK3JHE/U5MIR*>VK3JT>SABM
19:16 U5MIR-1>VK2YKT>RR3
19:16 VK3ABK/U5MIR>VK3ABK>SABM
19:16 U5MIR-1>CQ>UI:15.5817 ; mean motion (orbits/day)
19:16 U5MIR-1>CQ>UI:0.00 ; mean anomaly (degrees)
19:16 U5MIR-1>CQ>UI:6777.36 ; semi-major axis (km)
19:16 U5MIR-1>CQ>UI:0.00003 ; decay (orbits/day/day)
19:16 U5MIR-1>CQ>UI:1; decay flag ('0'=no, '1'=yes)
19:16 U5MIR-1>CQ>UI:2494 ; orbit number at epoch
19:16 U5MIR-1>CQ>UI:1; orbit base ('0'=perigee, '1'=equator)
19:16 U5MIR>VK2YKT>UA
19:16 VK3JHE/U5MIR*>VK3JT>SABM
19:16 VK3ABK/U5MIR>VK3ABK>SABM
19:16 VK3ABK/U5MIR*>VK3ABK>SABM

Amateur Radio and satellites can be great fun and extremely interesting as so much natural philosophy (science to we modern beings) is involved.

No wonder Maggie and Barry are able to get the young people excited.

I KNOW I AM.

73 de VK3ABK (Dick).

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PAGE FROM THE PAST

OPERATION BALLARAT

Operation Ballarat, during the period 31st January, 1st and 2nd February 1981, is now just an echo on the airwaves.

For those Amateurs who tried so desperately for the required QSO's, and missed out, should be congratulated for their efforts. Novices were at an added disadvantage; having only 10m available for possible QSO with AB6C (Ballarat U.S.A.). To frustrate them further, AB6C had 10m equipment problems.

Equipment problems were only a small worry for the expedition party to Ballarat U.S.A.. They were mistaken for possible claim-jumpers, and the desolate area has been known to serve as a hideout for questionable characters and activities. Two month previous, there was a murder in an adjacent canyon, which was used as a narcotics drop - complete with an airstrip. In addition, at night the temperature dropped to below zero. The only heat in the windowless and doorless shacks (derelict adobe buildings) was from the radio equipment and gasoline lights!!

Propagation was't kind to us either. Although a team in Ballarat (VK3) spent many hours at the set, not many qualifying QSO's were made.

To those amateurs who did qualify, and have applied for, the certificate, please be patient as confirmation has to be obtained from U.S.A.. Not only was this operation a chance for Amateurs to obtain a once-only award, but was an exercise in Public Relations. Articles appeared in Ballarat (VK3), Melbourne, Los Angeles and other Californian newspapers, in a Department of External Affairs magazine, and Ballarat (VK3) TV. Federal and Local government officials were also actively involved.

To those who participated in any way, or helped to promote the operation, the organisers sincerely thank you.

CLARRY KITZELMANN
VK3VEZ
Publicity Officer
B.A.R.G.

P.S. My personal thanks go to Leo (VK3ADT) for his wonderful photographs to send to U.S.A.. To Geoff (VK3NLZ) and Dick (VK3VU) for their encouragement and help, and those who activated their stations for many hours giving out 'identifiers'. A special thank you to Bill Sadler and John Lewis for their overwhelming support - without them, I'm sure that our 'official' participation and high standard of local media coverage would have been difficult to equal.

C.K.

(Retyped as per original from BARG Newsletter Feb, 1981. Editor)